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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/43,904	01/28/2000	Kun-Lung Wu	YO-999-594	2806

7590

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EXAMINER

WILEY, DAVID ARMAND

ART UNIT

PAPER NUMBER

2143

DATE MAILED: 02/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/493,904

Applicant(s)

WU ET AL.

Examiner

Bunjob Jaroenchonwanit

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 January 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-11,14-16,18-24 and 27 is/are rejected.
- 7) ☒ Claim(s) 4,12,13,17,25 and 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This application has been reviewed. Original claims 1-27 are pending, the objections and rejections cited are as stated below.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-2, 5-7, 14-15, 18-20 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Gupta et al (US. 6,405,252).

4. As to claims 1, 2, 5-7, 14, 15, 18-20 and 27, Gupta discloses an integrated server network, which can select web cache server on load and latency bases (see abstract). The teaching further includes using DNS to identify address of candidate cache server from a presented URL, (Col. 9, line 64-Col. 10, line3). Furthermore, it teaches an important feature of the invention that is the ability to choose appropriate server from response time, load and latency (Col. 8, lines 12-26, Col. 10, lines 60-67).

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5. In addition, Claims 1-3, 14-16 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Ross “Hash Routing for Collections of Shared Web Caches”.

6. Claims 1-3, 14-16 and 27, Ross teaches typical web client having a collection of shared web caches, e.g., web servers, proxy servers, and using an extended hashing algorithm that can balance workload and improve performance of conventional ICP and CARP (abstract). In addition, Ross teaches, by using the Hash Routing (HR) scheme, the system can distribute objects (URL), among (N sets) partitions of hash space (Hash Routing Protocols, Col. 2, page 39). The teaching further includes, spreading loads by scattering objects from the same page over N cache servers, (paragraph 3; Col. 1, page 38; paragraph 4, Col. 1, page 40), i.e., the URL of the object is hashed and mapped into proxy cache partition. Further, it teaches hashing algorithm that can improve performance, e.g., analysis of existing Caching protocol, e.g., ICP, CARP, and comparing performance, with respect to cache server overhead, i.e., load, and object retrieval latency (see Ross abstract; pages 32, Col. 2, paragraph 2). Furthermore, it teaches hashing URL and mapping the hashed URL into Hash space of N set, where N is number of sibling caches, forming sibling caches into a partition (Fig. 1, pg 38; pages 39, Col. 2, paragraph 7), i.e., forming candidate set of nearby cache partition. Moreover, it teaches the HR can form candidate cache server assigning to the client (pages 40, Col. 1, paragraph 3); and calculating latency, which can be used for selecting sibling cache (average latency).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3, 8-11, 16 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta, as to claims 1 and 14, above, in view of Ross "Hash Routing for Collections of Shared Web Caches".

9. Claims 3 and 16, Gupta discloses the invention substantially, as claimed, but fails to express hashing the URL into an anchor hash partition; forming hash partitions by including nearby partitions; and mapping each partition to a proxy cache.

In an analogous art, Ross teaches hashing URL and mapping the hashed URL into partitions and forming sibling caches into cache partitions (Ross, Fig. 1; pages 38-40).

Thus It would have obvious to one of ordinary skill in the art at the time of the invention was made to implement Ross's teaching to improve performance of Gupta. In doing so, Gupta system will balance load, more effectively; more robust; and higher efficiency over prior system as suggested in Ross abstract.

10. As to claims 8-10 and 21-23, Gupta-Ross teaches the method according to Claims 3 and 16, but fails to express levels of the hash values, e.g., greater, less than or both, the anchor partition. However, specifying level of hash-value as claimed, would have been obvious to one of ordinary skill in the art that was a matter of design choice, which depends on application.

11. As to claims 11 and 24, Gupta-Ross hash partition into a number between 1 and P, wherein P represents the total number of proxies (N sets of partition, Ross Routing Protocols, section page 39).

*Allowable Subject Matter*

12. Claims 4, 12, 13, 17, 25 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: In light of specification, the prior art of record fails to teach individually or in combination, the combination of creating an indirect mapping (as taught in spec. Page 14-15), of hash partitions to a proxy ID array; hashing the URL into an anchor hash partition; finding the corresponding anchor proxy cache; and forming a candidate set of proxy caches by including one or more nearby proxy caches from the proxy ID array into the anchor proxy cache and selecting candidate set of proxy bases on latency and load condition.

As to claims 17 and 25, the prior art fails to teach, generating  $N/P$  random numbers between 0 and 1, wherein  $N$  represents the total number of hash partitions and  $P$  represents the total number of proxies; generating a proxy list by sorting the corresponding  $N$  random numbers generated; and assigning each hash partition to one proxy based on the sorted proxy list.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bunjob Jaroenchonwanit whose telephone number is (703) 305-9673. The examiner can normally be reached on 8:00-17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (703) 308-5221. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

A handwritten signature in black ink, appearing to read 'B. Jaroenchonwanit', with a stylized flourish at the end.

Bunjob Jaroenchonwanit  
Examiner  
Art Unit 2141

/bj  
January 23, 2003